



US Army Corps
of Engineers
Seattle District

Joint Public Notice



Application for a Department of the Army

Permit and Department of Ecology Certification

US Army Corps of Engineers
Regulatory Branch
Post Office Box 3755
Seattle, Washington 98124-3755
Telephone (206) 764-6911
Attn: Jack Kennedy, Project Manager

Washington Department of Ecology
SEA Program
3190 - 160th Ave. SE
Bellevue, WA 98008-5452
Telephone (425) 649-7181
Attn: Rebekah Padgett, Permit Manager

Public Notice Date: May 9, 2006
Expiration Date: June 8, 2006
Reference No.: 200501045
Name: Burlington Northern Santa Fe
Railway Co and Sound Transit

Interested parties are hereby notified that the U.S. Army Corps of Engineers (Corps) and the Washington Department of Ecology (Ecology) have received an application to perform work in waters of the United States as described below and shown on the enclosed drawings.

The Corps will review the work in accordance with Section 10 of the 1899 Rivers and Harbors Act and Section 404 of the Clean Water Act (CWA). Ecology will review the work pursuant to Section 401 of the CWA, with applicable provisions of State water pollution control laws, and with Section 307(c) of the Federal Coastal Zone Management Act (16 U.S.C. 1451).

APPLICANT: Burlington Northern Santa Fe Railway Company
2454 Occidental Avenue South
Seattle, Washington 98134
ATTN: Walter Smith
Telephone: (206) 625-6335

AGENT: Sound Transit
401 South Jackson Street
Seattle, Washington 98104
ATTN: Chris Townsend
Telephone: (206) 398-5135 e-mail townsendc@soundtransit.com

LOCATION – In Puget Sound and in estuaries that drain into Puget Sound at two points near Edmonds, Washington and two points near Mukilteo, all in Snohomish County, Washington.

PROJECT DESCRIPTION – WORK: The overall project involves establishing a continuous set of double railroad tracks along the 30 miles of Puget Sound shoreline between Seattle, Washington and Everett, Washington. At four points, two near Edmonds and two near Mukilteo, Washington, tracks would be established over a roadbed widened into Puget Sound or into intertidal lagoons between the tracks and the adjacent bluffs. New track would be constructed in what is currently subtidal or intertidal Puget Sound, using fill placed behind an eco-block retaining wall. The fill proposed for Puget Sound would feature armoring and a 10- to 30-foot wide toe keyed into substrates to resist scouring from wave action. Culverts on the corridor would be lengthened by as much as 22 feet. In all, 6420 lineal feet of track (in four segments ranging in length from 890 feet to 2400 feet) will be placed on 3.74 acres of jurisdictional fill on Puget Sound nearshore, subtidal, and estuarine substrates:

restoration of 6 acres of former estuarine marsh at the Qwuloolt Restoration Site near the mouth of the Snohomish River.

The marine areas being impacted by this proposal perform functions involving prey availability, refuge from predators, migration corridor, availability and access to spawning habitat, and physiological refuge. The estuarine lagoons perform additional functions involving food chain support and nutrient cycling, habitat, floodwater storage and conveyance, and water quality.

Removal of the 1.5-acre Meadowdale Marina boathouse is designed to improve impacted marine functions by eliminating factors that depress existing functions—shading, migration disruption, predator habitat, obstruction of longshore sediment transport, and PAHs and other contaminants released by the boathouse's creosote-treated piling. Dense nearshore eelgrass beds exist immediately north and south of the boathouse, and its removal may facilitate natural eelgrass colonization at the site.

In Marysville, fronting Ebey Slough in the Snohomish River estuary, lies the Qwuloolt restoration project. It is a 300+ acre collection of low-lying properties used for pasture, separated from Ebey Slough by levees since the early 1900s. The project needs to acquire three more properties to avoid having to build cross-levees for water containment. The applicant has committed to purchase the necessary portions of the three needed properties (14.9 acres), and to actively restore 6 acres by removing tide gates and breaching levees. The 6-acre restoration project would be consistent with the long-term plans established for the entire Qwuloolt restoration project. Pages 15 and 16 of the attached drawings contain text explaining the proposed mitigation. The text was excerpted from a document entitled *Conceptual Nearshore Marine, Estuarine, and Wetland Mitigation Plan Everett-to-Seattle Commuter Rail Project Third Easement King and Snohomish Counties, Washington (August 2005)*. The document is available for review at the regulatory offices of the Seattle District, U.S. Army Corps of Engineers and from the proposal's agent, upon request.

PUBLIC HEARING -Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

EVALUATION – CORPS - The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The Corps is soliciting comments from the public; Native American Nations or tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

| Location | Milepost* | Sound or Lagoon | Distance | Fill on Riprap Below MHHW | Fill on Substrate Below MHHW | Drawing Pages |
|----------|-----------|-----------------|----------|---------------------------|------------------------------|---------------|
| Edmonds | 16.0-16.2 | Lagoon | 890 ft | 0.04 ac | 0.37 ac | 2, 3, 5 |
| Edmonds | 16.5-16.9 | Both | 1730 | <u>0.55</u> 0.59 ac | <u>0.42</u> 0.79 ac | 4-7 |
| Mukilteo | 26.9-27.2 | Sound | 1400 | 0.07 | 0.81 | 8-10 |
| Mukilteo | 27.7-28.1 | Sound | 2400 | <u>0.43</u> 0.50 ac | <u>1.05</u> 1.86 ac | 11-13 |

*Milepost 0 is at the King Street Station in downtown Seattle, Washington. Milepost 15 is near the King-Snohomish County line. Milepost 35 is in Everett, Washington. Mileposts 10, 15, 20, 25, 30, and 35 appear on the Vicinity Map, page 1 of the attached drawings.

The west sides of two ditch-based freshwater wetlands in the southern (Edmonds) half of the project would receive a total of 0.15 acres of fill.

PURPOSE: The purpose of the project is to increase the capacity of the existing rail line to accommodate increasing freight, passenger, and commuter rail traffic. The corridor is currently used daily by six Amtrak passenger trains, four Sounder commuter trains, 36 scheduled freight trains, and a varying number of unattached locomotive units moving between cities.

ADDITIONAL INFORMATION – Copies of this public notice which have been mailed or otherwise physically distributed feature project drawings in black and white. The electronic version features those drawings in color, which we think more accurately communicates the scope of project impacts. To access the electronic version of this public notice, go to the Seattle District's web page at <http://www.nws.usace.army.mil/> and scroll down the alphabetical listing of District elements, and click on "Regulatory" and then "Regulatory – Permits" for the Seattle District's Regulatory homepage. Select the prominently displayed "Public Notices" heading and a list of recently-issued public notices will appear, in chronological order of the date of issuance. Select the listing for this Burlington Northern Santa Fe Railway project by clicking on the blue file number, 200501045.

Also, on March 31, 2006, the Seattle District verified that Nationwide Permit 14 authorized fills in wetlands between the railroad tracks and the upland bluffs at five locations between Seattle and Everett (case number 20060111). The work involved five utility projects—two new signal towers and their associated buildings and access roads, and three "control points" with associated switching mechanisms, crossover tracks, buildings, and access roadways. In all, 0.41 acres of freshwater wetlands were filled (increments were 0.01 acre at MP 11.8, 0.01 acre at MP 13.1, 0.25 acre at MP 14.2, 0.07 acre at MP 18.8 and 0.07 acre at MP 23.8). We used Nationwide Permit 14 to authorize the work after we determined the work had a separate utility from the double tracking described in this public notice, would be conducted regardless of the outcome of the double tracking request, and were at different locations than the proposed double tracking.

The wetlands affected by these five projects are swales lying between the railroad tracks and the bluffs near Edmonds and Mukilteo, hosting hydrophytic vegetation. They have an important stormwater conveyance function, which will be replicated on site by the creation of new ditches. The wetlands have a food chain support function, and limited habitat function for insects and amphibians. Other on-site ditch-related mitigation are as follows:

- repair a clogged culvert at Deer Creek near Edmonds, producing an increased natural flow to a small creek system.

- remove landslide debris which separate two lagoons north of Edmonds, resulting in more complete flushing of the “upper” lagoon; with less ponding, it should induce a more diverse set of vegetation and an ensuing increase in detrital export and food chain support.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS), (collectively, the Services), pursuant to Section 7 of ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat. Listed below are the species, listed under ESA that occur in the project area and the Federal Transit Administration’s (FTA), the as the lead agency for ESA consultation, has consulted and continues to consult with the NMFS and the USFWS as required under Section 7 of the ESA:

- Bull trout, threatened, *may affect, not likely to adversely affect*
- Bull trout critical habitat, designated, *may affect, not likely to adversely affect*
- Puget Sound Chinook salmon, threatened, *may affect, likely to adversely affect*
- Puget Sound Chinook salmon critical habitat, designated, *may affect, not likely to adversely affect*
- Bald eagle, threatened, *may affect, not likely to adversely affect*
- Marbled Murrelet, threatened, *may affect, not likely to adversely affect*
- Southern Resident Killer whale, endangered, *may affect, not likely to adversely affect*

In January of 2003, FTA sent to the Services a Biological Evaluation that covered Chinook salmon, Essential Fish Habitat, bull trout, bald eagle and marbled murrelet. NMFS issued a Biological Opinion on March 10, 2003, and USFWS issued a letter of concurrence on March 19, 2003.

Since the early 2003 NMFS Biological Opinion and USFWS concurrence, additional ESA listings have been made by the Services. Consultation has been reinitiated by the FTA, and is ongoing, expected to be completed before mid-2006. The additional listings are below, along with FTA’s determination of effect:

- Puget Sound Chinook salmon critical habitat, *will not adversely affect*
- Bull trout critical habitat, *will not adversely affect*
- Southern Resident Killer whale, threatened, *may affect, not likely to adversely affect*

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed action would impact about 12 acres of EFH for Pacific salmon, Groundfish, and Coastal Pelagic Species in the project area.

The FTA, as the lead agency for a determination regarding EFH, has consulted with the NMFS. The latter determined the project may adversely affect EFH, and has provided appropriate conservation recommendations.

CULTURAL RESOURCES: The FTA, as the lead agency for determining compliance with Section 106 of the National Historic Preservation Act, will consult with the State Historic Preservation Office as appropriate. This public notice initiates consultation under Section 106 of the National Historic Preservation Act (36 CFR 800.4[a][3]), with any Tribe that has information or concerns with historic properties in the proposed permit area.

MITIGATION: To compensate for the effects of placing railroad bed fill on 3.74 acres of Puget Sound substrates, the applicant proposes two forms of mitigation: removal of the Meadowdale Marina’s 64,000 + square foot dilapidated boathouse from an intertidal location north of Edmonds (see drawings page 14), and

The proposed discharge will be evaluated for compliance with guidelines promulgated by the Environmental Protection Agency under authority of Section 404(b)(1) of the CWA. These guidelines require an alternatives analysis for any proposed discharge of dredged or fill material into waters of the United States.

EVALUATION—ECOLOGY: Ecology is soliciting comments from the public; Federal, Native American Nations or tribal governments, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by Ecology to determine whether to issue, modify, condition or deny approval for the work. Ecology will review the project for a Water Quality Certification (WQC), pursuant to the requirement of Section 401 of the CWA, to determine if the project will comply with Sections 301, 302, 303, 306 and 307 of the Act, and complies with applicable provisions of State water pollution control laws. Pursuant to the requirements of Section 307 (c) of the Federal Coastal Zone Management (CZM) Act (16 U.S.C. 1451) Ecology will also be reviewing the project to determine if the work is consistent with the Washington State Coastal Zone Management Program.

ADDITIONAL EVALUATION – ECOLOGY: Besides the four instances of installing double railroad tracks advertised in this public notice, Ecology is using this same public notice to advertise and solicit WQC/CZM comments on the five instances of utility work described on the bottom of the second page of this notice, under the heading of **ADDITIONAL INFORMATION**. That work was authorized by the Corps via Nationwide Permit. Because the work occurred in “non-tidal wetlands adjacent to tidal waters,” it requires an individual WQC and CZM Consistency Determination from Ecology.

A vicinity map showing the locations of the five utility actions follows the 16 pages of drawings attached to this public notice.

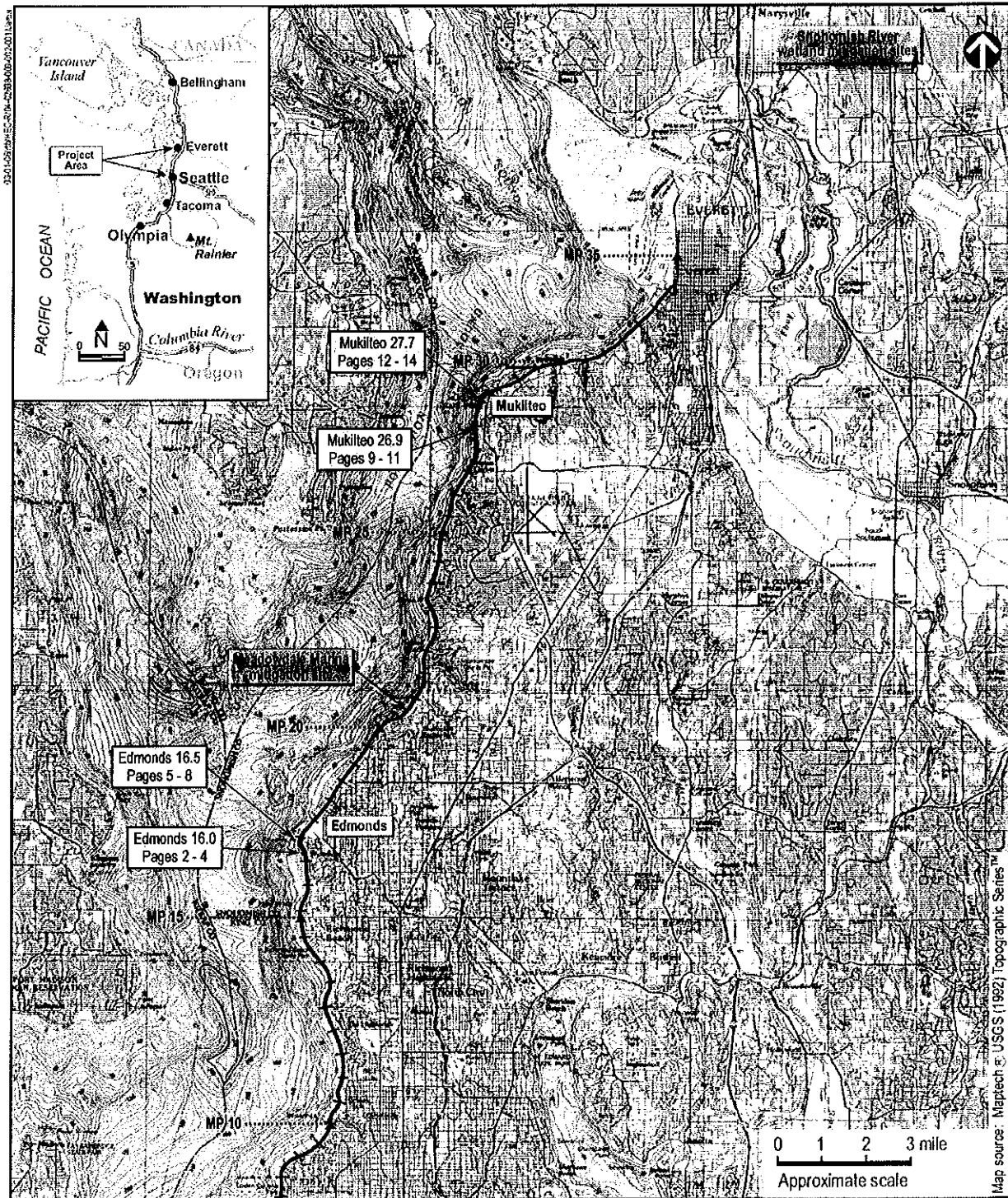
COMMENT AND REVIEW PERIOD – Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether it would be in the public interest to authorize this proposal. In order to be accepted, e-mail comments must originate from the author’s e-mail account and must include on the subject line of the e-mail message the permit applicant’s name and reference number as shown at the end of this notice. Both conventional mail or e-mail comments must include the permit applicant’s name and reference number and the commenter’s name and address (e-mail or street), and should also list a phone number. All comments whether conventional mail or e-mail must reach the appropriate office no later than the expiration date of this public notice to ensure full consideration.

Corps comments: All e-mail comments should be sent to jack.kennedy@nws02.usace.army.mil Conventional mail comments should be sent to U.S. Army Corps of Engineers, Regulatory Branch, Attn: Jack Kennedy, Post Office Box 3755, Seattle, Washington, 98124-3755.

Ecology Comments: Any person desiring to present views on the project pertaining to: (1) request for water quality certification under Section 401 of the CWA and/or 2) consistency with the Washington State CZM Program, or to provide comments on the bank’s processing or operation, may do so by submitting written comments to the following address: Department of Ecology, Attn: Rebekah Padgett, 3190 160th Avenue Southeast, Bellevue, Washington, 98008-5452, or e-mail to rp461@ecy.wa.gov

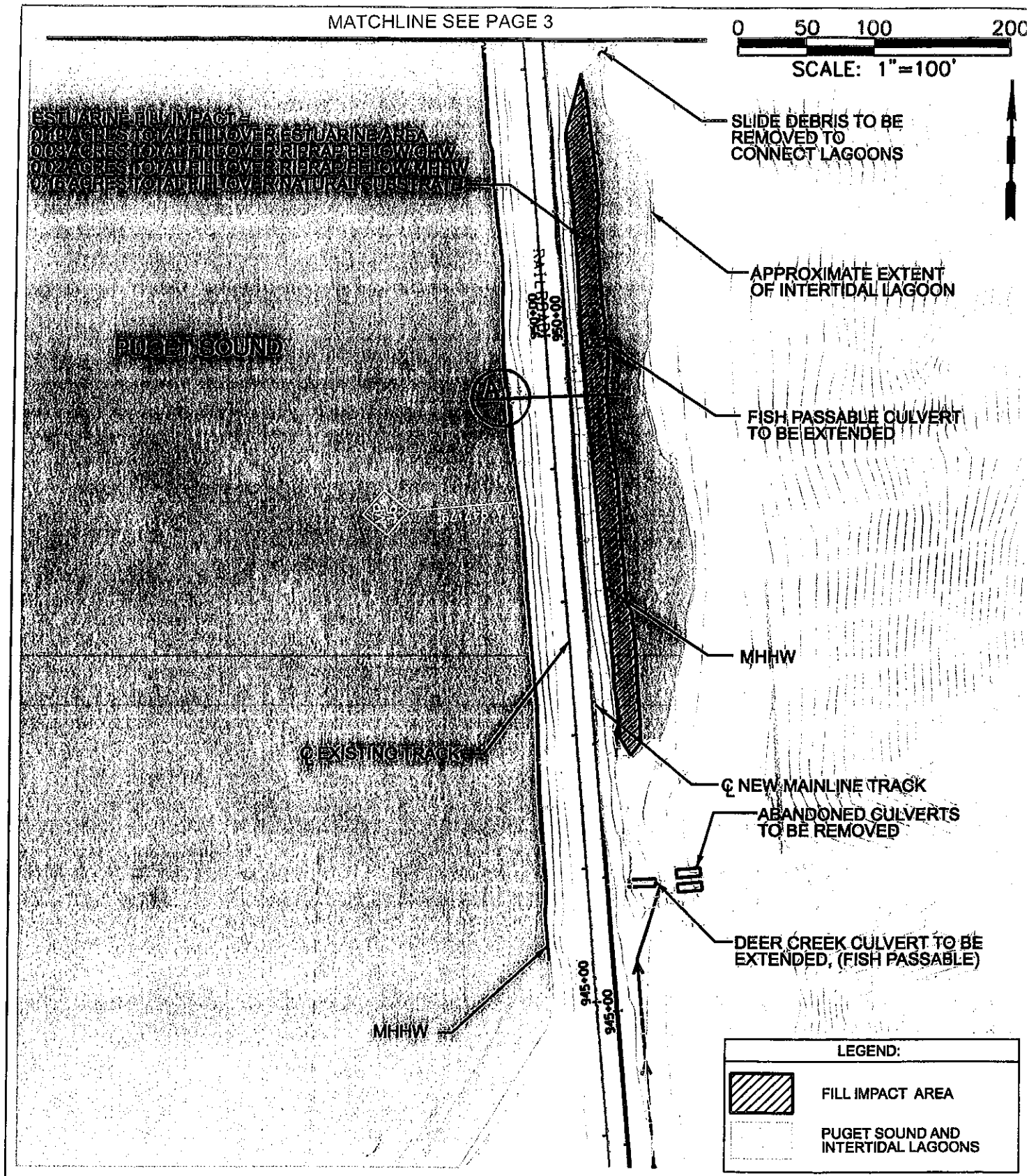
To ensure proper consideration of all comments, responders must include the following name and reference number in the text of their comments: Burlington Northern Santa Fe Railway Co and Sound Transit, 200501045.

Encl: Figures (16)



Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway Company



Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic

Datum: MLLW = 0.0 (N.O.S.)

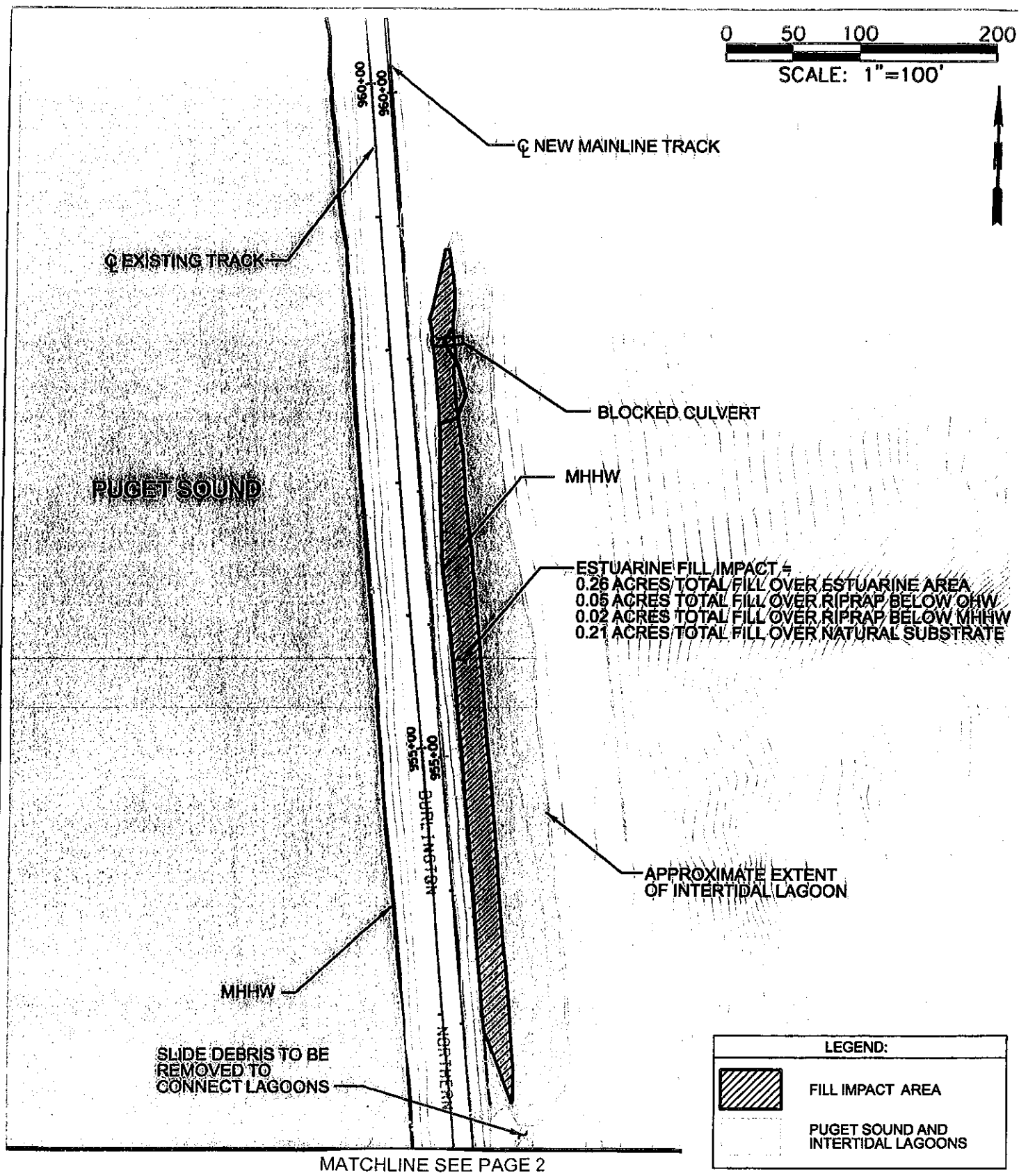
Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 linear feet (1.2 miles)

In: Puget Sound and adjacent lagoons

Near/At Edmonds and Mukilteo (2 locations each)

Snohomish County, Washington

Applicant: Burlington Northern Santa Fe Railway Company



Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic

Datum: MLLW = 0.0 (N.O.S.)

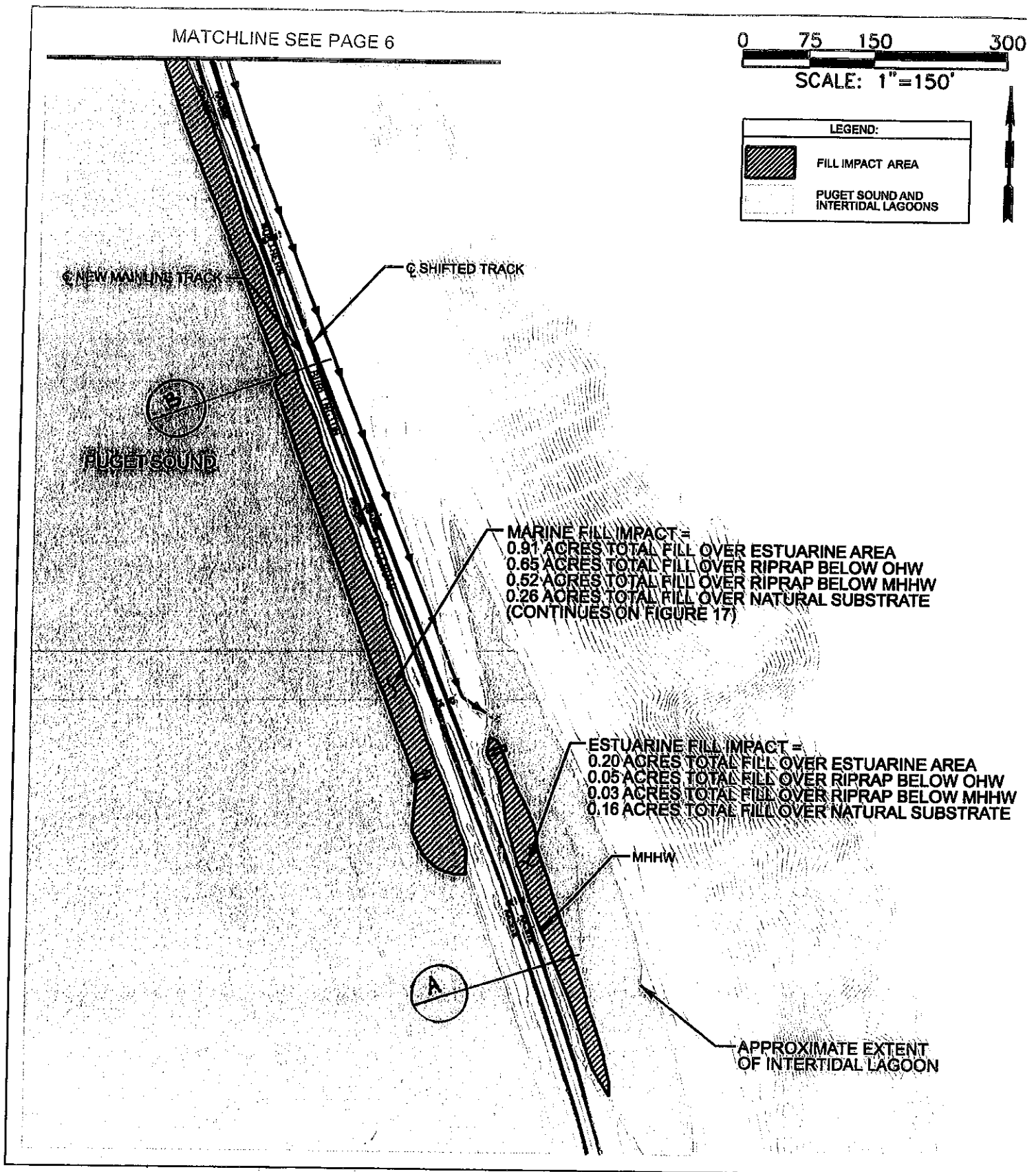
Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)

In: Puget Sound and adjacent lagoons

Near/At Edmonds and Mukilteo (2 locations each)

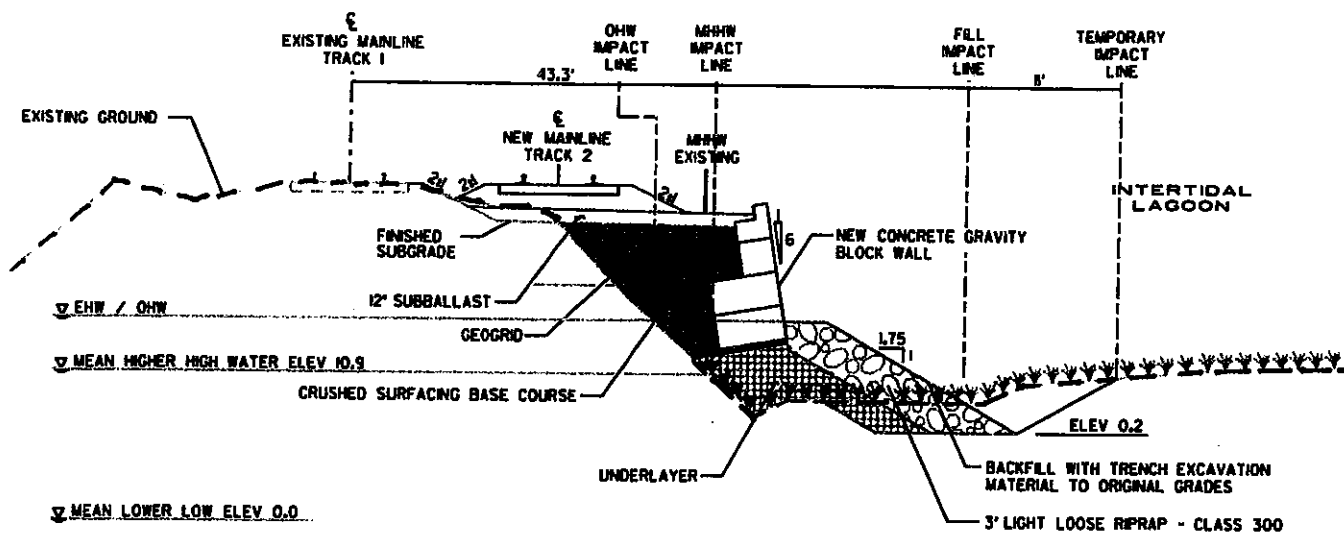
Snohomish County, Washington

Applicant: Burlington Northern Santa Fe Railway Company



Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
 Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
 In: Puget Sound and adjacent lagoons
 Near/At Edmonds and Mukilteo (2 locations each)
 Snohomish County, Washington
 Applicant: Burlington Northern Santa Fe Railway Company



A

SECTION - ROCK REVETMENT

STA 947+00 TO STA 958+30 (AO-MT2)
STA 973+50 TO STA 976+00 (AO-MT2)

LEGEND



LIGHT LOOSE RIPRAP



UNDERLAYER



CRUSHED SURFACING BASE COURSE

Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington

Applicant: Burlington Northern Santa Fe Railway Company

0 75 150 300

SCALE: 1"=150'

LEGEND:



FILL IMPACT AREA



PUGET SOUND

PUGET SOUND

NEW MAINLINE TRACK

SHIFTED TRACK

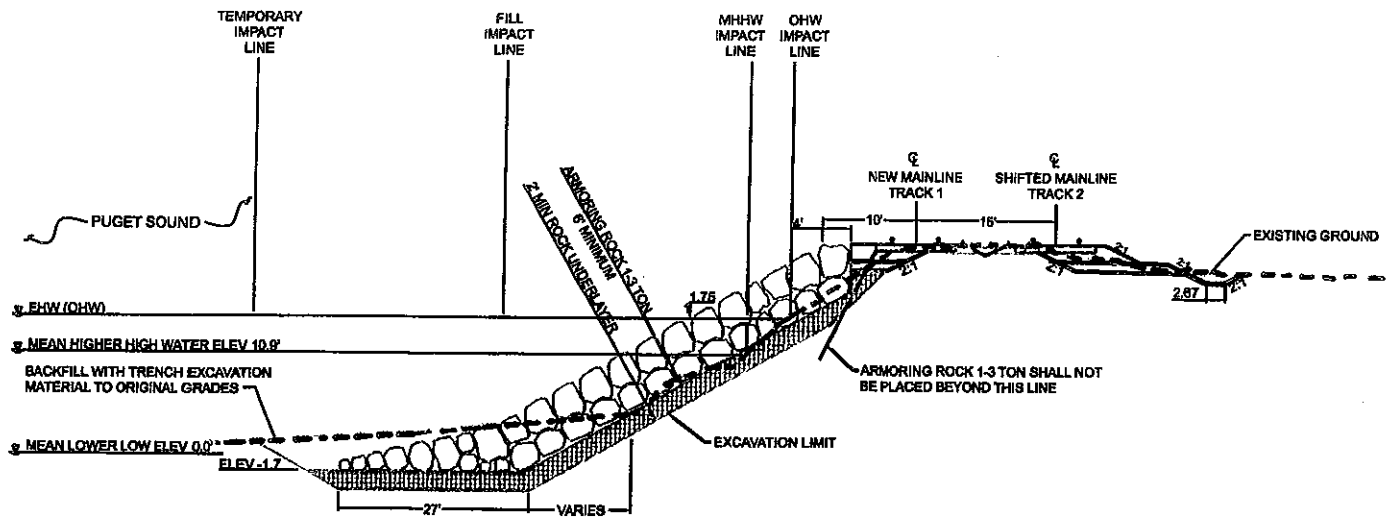
MARINE FILL IMPACT =
0.20 ACRES TOTAL FILL OVER ESTUARINE AREA
0.05 ACRES TOTAL FILL OVER RIPRAP BELOW OHW
0.03 ACRES TOTAL FILL OVER RIPRAP BELOW MHHW
0.16 ACRES TOTAL FILL OVER NATURAL SUBSTRATE
(CONTINUED FROM FIGURE 15)

MHHW

MATCHLINE SEE PAGE 4

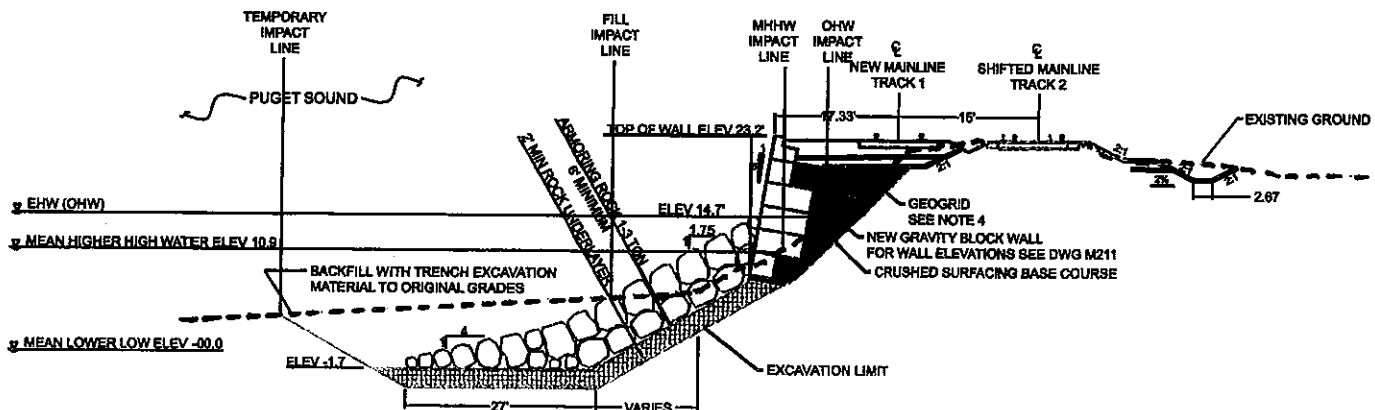
Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 linear feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway Company



(B) SECTION - ROCK REVETMENT
STA 976+25 TO STA 982+00 (AO-MT2)
STA 989+75 TO STA 992+25 (AO-MT2)

| LEGEND | |
|--------|-------------------------------|
| | UNDERLAYER |
| | CRUSHED SURFACING BASE COURSE |
| | ARMORING ROCK |



(C) SECTION - ROCK REVETMENT
STA 982+00 TO STA 989+75 (AO-MT2)

- GENERAL NOTES:
1. BEACH TRENCH EXCAVATION SHALL BE SIDE CAST ON BEACH AND RE-USED FOR RESTORATION OF BEACH TO ORIGINAL GRADES. ROCK DIKE EXCAVATION MATERIAL SHALL BE REMOVED AND DISPOSED OFF-SITE.
 2. EXISTING ROCK DIKE MATERIAL MAY BE PRESENT IN BEACH TRENCH EXCAVATION.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE STABILITY OF EXISTING EMBANKMENT DURING EXCAVATION.
 4. EXTEND GEOGRID TO EXCAVATION LIMIT.

Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

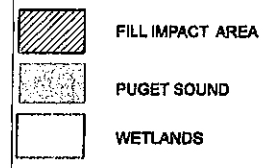
Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway Company

MATCHLINE SEE FIGURE 26

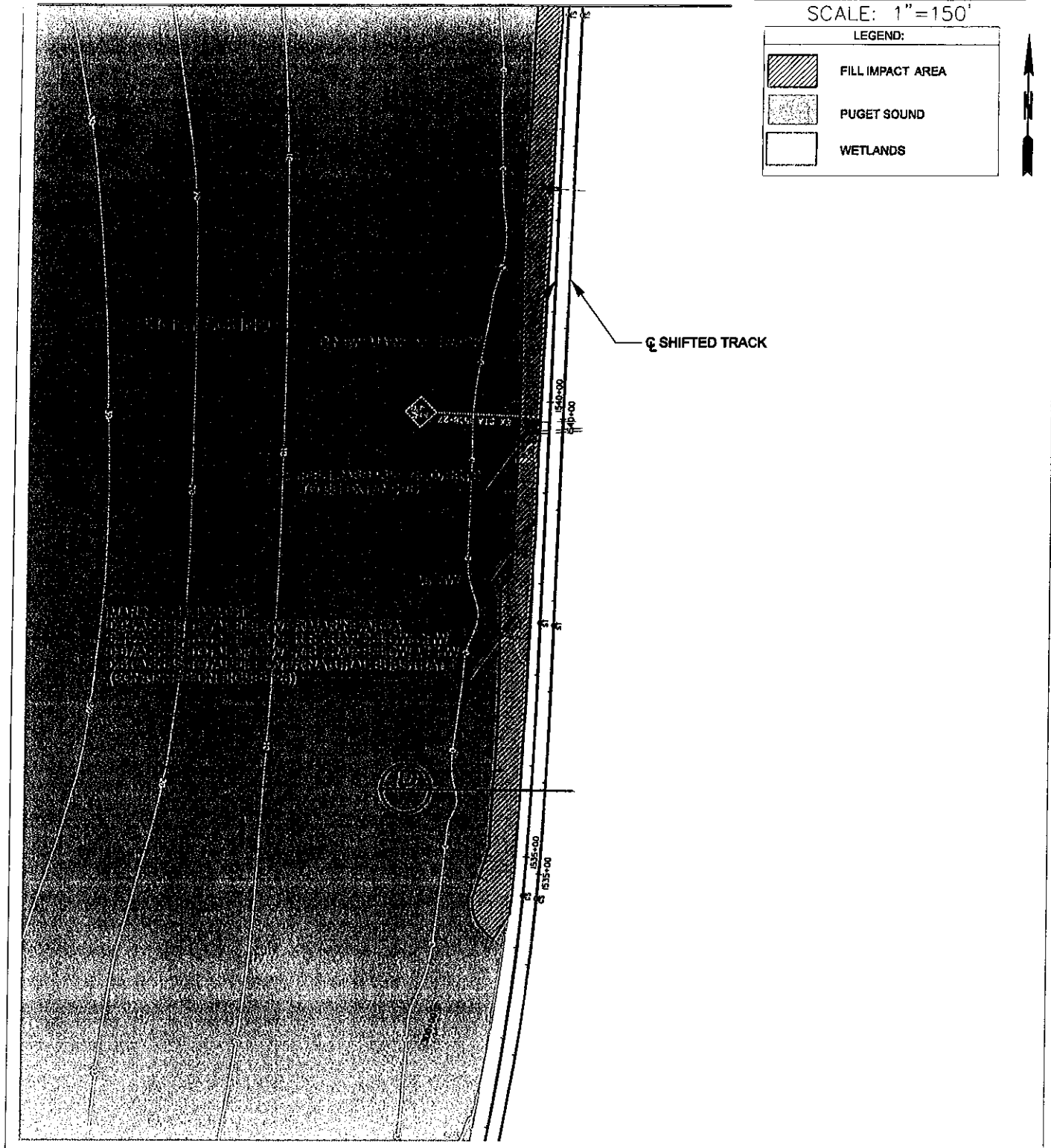
0 75 150 300

SCALE: 1"=150'

LEGEND:



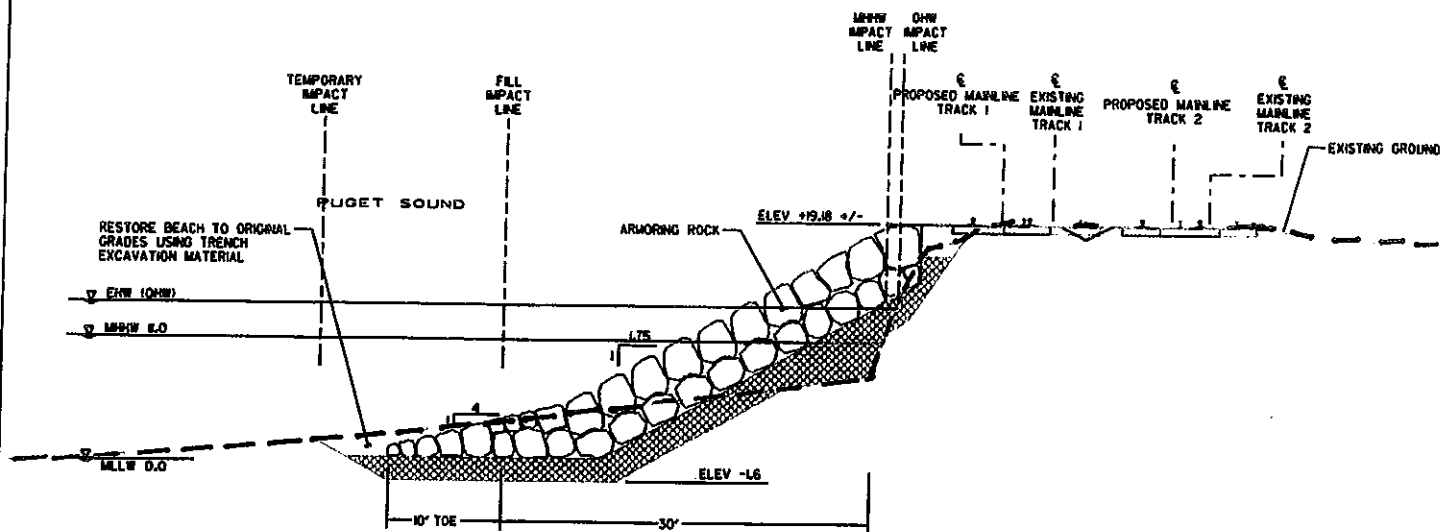
☉ SHIFTED TRACK



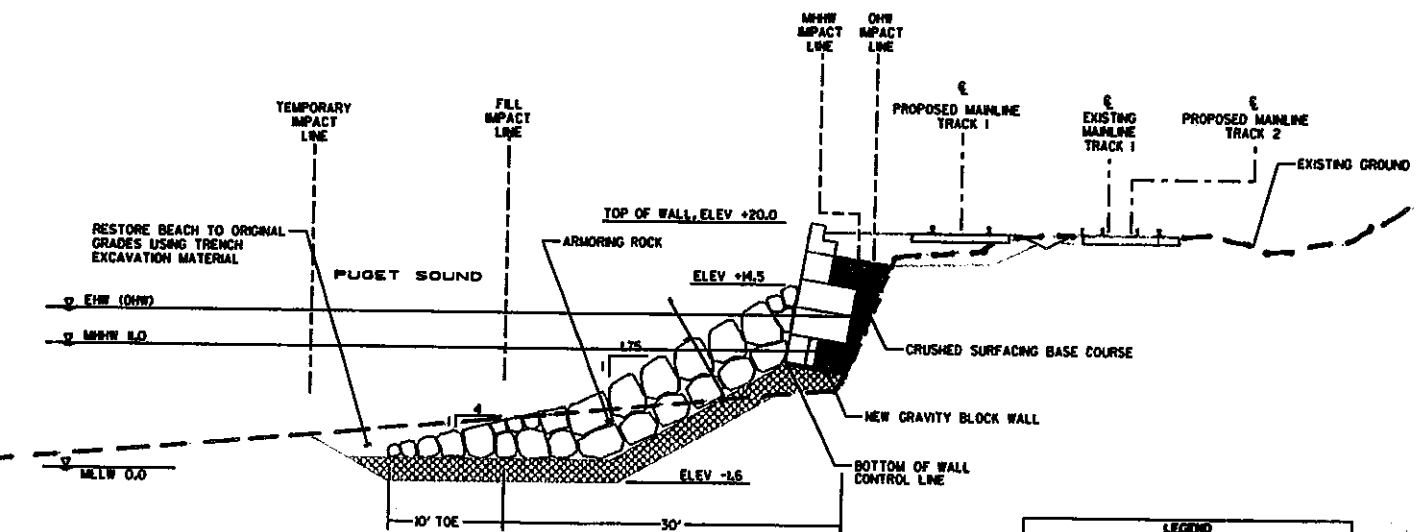
Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic.

Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles) Puget Sound and adjacent lagoons Near/At Edmonds and Mukilteo (2 locations each) Snohomish County, Washington Applicant: Burlington Northern Santa Fe Railway



D SECTION - ROCK REVETMENT
STA 1534+00 TO STA 1541+60



E SECTION - ROCK REVETMENT
STA 1541+60 TO STA 1549+00

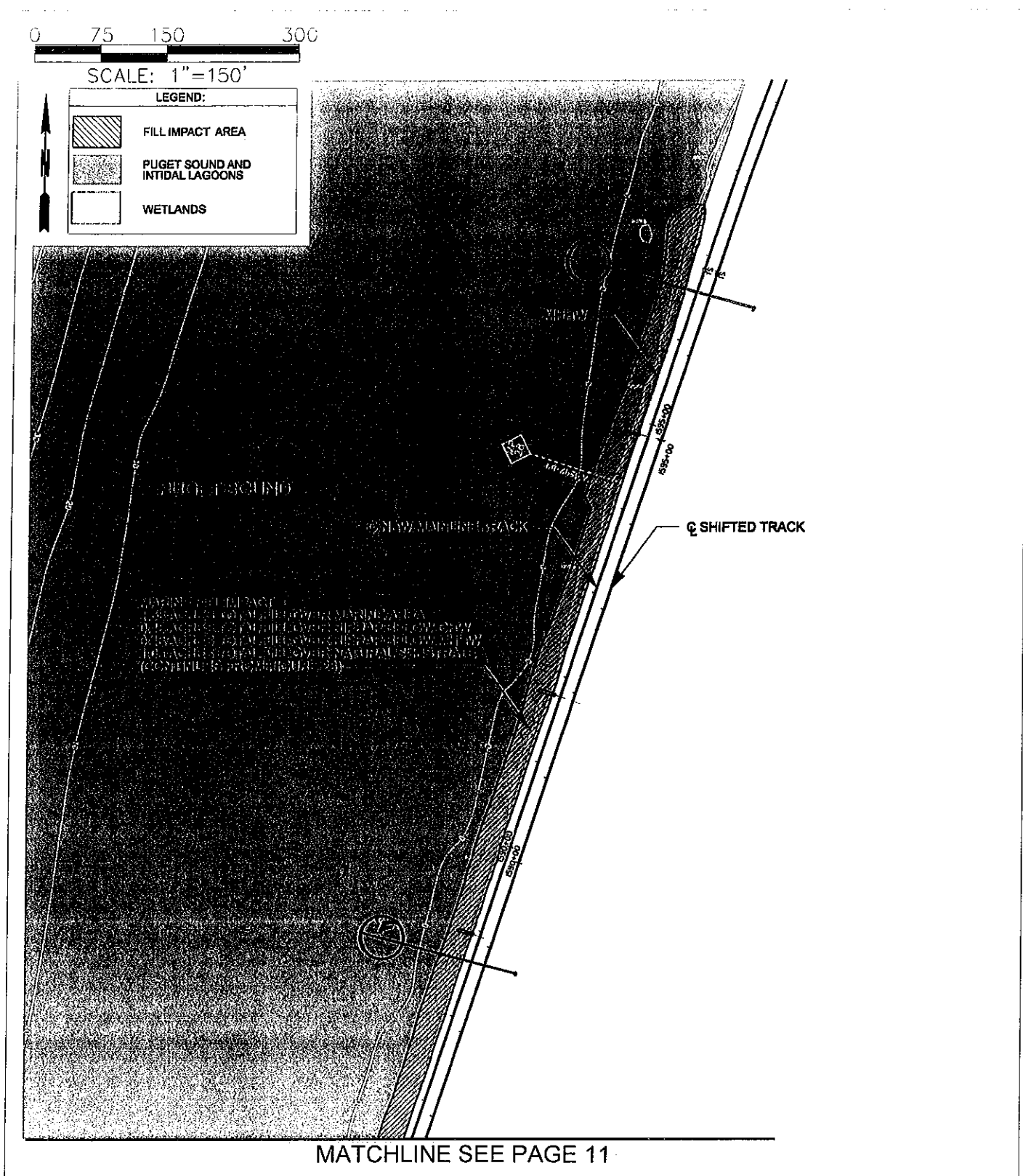
| LEGEND | |
|--------|-------------------------------|
| | UNDERLAYER |
| | CRUSHED SURFACING BASE COURSE |
| | ARMOR ROCK |

GENERAL NOTES:

1. BEACH TRENCH EXCAVATION SHALL BE SIDE CAST ON BEACH AND RE-USED FOR RESTORATION OF BEACH TO ORIGINAL GRADES. ROCK DKE EXCAVATION MATERIAL SHALL BE REMOVED AND DISPOSED OFF-SITE.
2. EXISTING ROCK DKE MATERIAL MAY BE PRESENT IN BEACH TRENCH EXCAVATION
3. EXTEND GEOGRID TO EXCAVATION LIMIT.

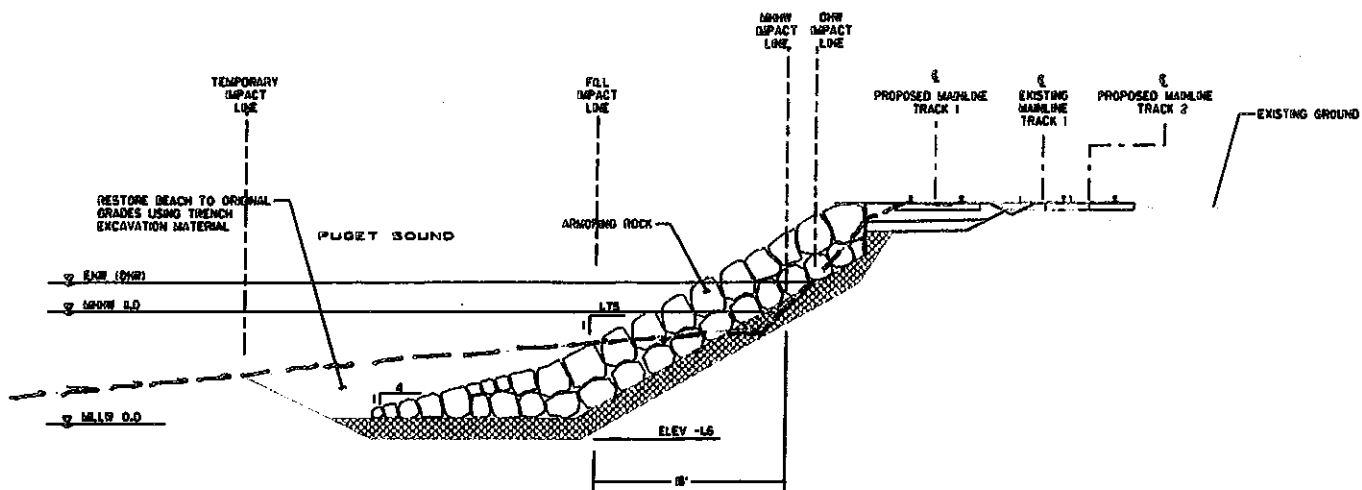
Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway Company



Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic.
Datum: MLLW = 0.0 (N.O.S.)

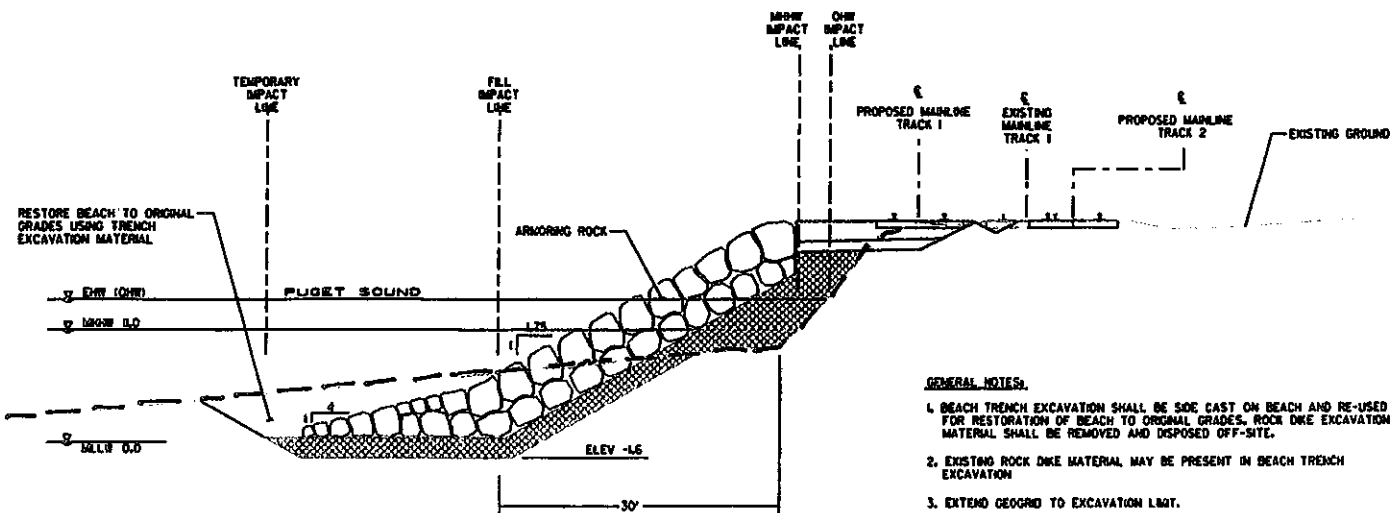
Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway



(F)

SECTION - ROCK REVETMENT
STA 1580+60 TO STA 1594+00

| LEGEND |
|---------------|
| ARMORING ROCK |
| ARMORING ROCK |



(G)

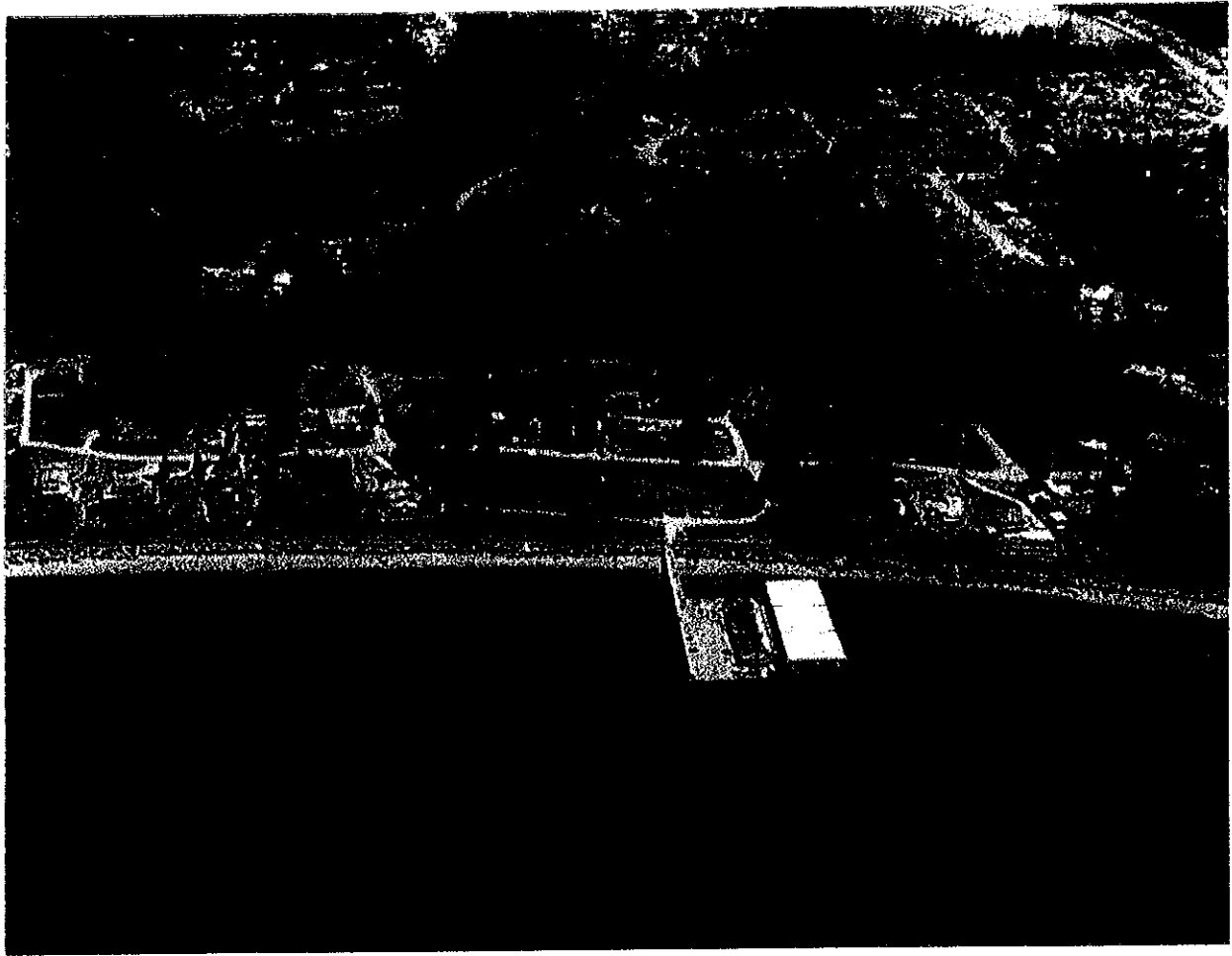
SECTION - ROCK REVETMENT
STA 1574+60 TO STA 1580+20,
STA 1594+00 TO STA 1597+40

GENERAL NOTES:

1. BEACH TRENCH EXCAVATION SHALL BE SIDE CAST ON BEACH AND RE-USED FOR RESTORATION OF BEACH TO ORIGINAL GRADES. ROCK DKE EXCAVATION MATERIAL SHALL BE REMOVED AND DISPOSED OFF-SITE.
2. EXISTING ROCK DKE MATERIAL MAY BE PRESENT IN BEACH TRENCH EXCAVATION
3. EXTEND GEOGRID TO EXCAVATION LIMIT.

Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway Company



Aerial photo showing the Meadowdale Marina's 60,000+ square foot overwater boathouse facility about 3 miles north of the Edmonds ferry terminal. The whole structure would be removed in its entirety as part of the mitigation package for this project. From Washington Department of Ecology's "Shoreline Aerial Photographs" web site at <http://apps.ecy.wa.gov/shorephotos/>

Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic.

Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway

Goals and Objectives of compensatory Mitigation at Qwuloolt Restoration Project Site⁶⁴²⁰

The goals of compensatory mitigation in the Snohomish River estuary are to facilitate the restoration of estuarine processes to over 300 acres and to restore natural hydrologic connection to two stream systems. To achieve these goals, the Trustees developed the following objectives:

1. Removal or breaching of dikes to restore estuarine intertidal processes
2. Removal of tide gates on Allen Creek and Jones Creek (Hillman 2004 personal communication).

Sound Transit's mitigation for marine impacts will satisfy the ratios established in the record of decision (ROD) issued by FTA in February 2000.

Rationale for Selection of Mitigation Site

Only 17 percent of the area surrounding the lower Snohomish River estuary is undeveloped and available as natural habitat. It is estimated that habitat changes have reduced chinook production capacity to between 40 and 60 percent of its historic level. The Qwuloolt restoration site is located in one of the focus areas for near term actions and addresses all the actions suggested in the Snohomish River Basin Interim Habitat Protection Restoration Strategy for this focus area (SRFB 2004). Restoring estuarine intertidal processes will provide significant improvements in chinook salmon abundance, productivity, and diversity (Hillman 2004 personal communication).

Restoration of the property currently held by the Trustees would require that the adjacent low-lying portions of the Rose, Hendrickson, and Roberts properties be protected from tidal influences and flooding should the Ebey Slough dike be breached. This protection would likely take the form of new diking systems that are relatively expensive.

Purchase of these properties will allow the Trustees to create a larger, contiguous property with a boundary above the floodplain, reducing or eliminating the need for diking (Emcon 1998), and resulting in a larger contiguous restoration site.

Targeted Functions

The nearshore marine functions important to salmonids that will be affected by the proposed project include prey availability, refuge from predators, and migrations corridors (see Table 4).

Identified restoration opportunities in the Snohomish River estuary will provide these functions in addition to much needed overwintering and freshwater transitional habitat for juvenile salmon. The primary benefits to salmonids from tidal restoration are:

Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)

In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington

Applicant: Burlington Northern Santa Fe Railway Company

- An increase in habitat capacity, which is expected to increase salmon production
- Reestablished migration corridors
- Restored edge habitat to tidal habitat
- Reestablished marsh and blind channel habitat
- Increased feeding opportunities
- Reduced predation potential on juveniles
- Improved flood storage
- Reduced water temperatures and increased dissolved oxygen content
- Improved pollutant removal through sediment retention.

All of these benefits act to decrease juvenile salmon mortality and increase critical habitat. Restoration of the Qwuloolt site is expected to result in increased habitat capacity and smolt production in an area that currently has a small percentage of total acreage in salmonid habitat (Anchor 2003c).

Existing Site Conditions

Existing soils, vegetation, sources of water and landscape position at the Qwuloolt restoration site lend themselves to a project that will accomplish the goals of restoration in the Snohomish River estuary. The site includes over 300 acres of farmland located 0.5 miles southeast of downtown Marysville, Washington. The property is bordered on the north by other pasture lands, on the east by rural residential development and farm buildings, on the south by Ebey Slough, and on the west by Allen Creek and undeveloped land. Jones Creek, a tributary to Allen Creek, runs through the center of the property.

Purpose: Establish a continuous set of double railroad tracks between Seattle and Everett to enable the corridor to accommodate increasing freight, passenger, and commuter rail traffic
Datum: MLLW = 0.0 (N.O.S.)

Proposed: Place railroad bed fill on 3.74 acres of Puget Sound nearshore, subtidal, and estuarine substrates in four segments totaling 6,420 lineal feet (1.2 miles)
In: Puget Sound and adjacent lagoons
Near/At Edmonds and Mukilteo (2 locations each)
Snohomish County, Washington
Applicant: Burlington Northern Santa Fe Railway Company